

E-Ticket Rides at Christmas Island

LeRoy G. Green

Green recalls his experience as a rocket crew member during the Christmas Island atmospheric tests.

It was 1962, and the last atomic bomb testing by the United States in the atmosphere was about to commence. I had worked for the University of California Radiation Laboratory eight years, and had been to the Pacific for atmospheric nuclear tests in both 1956 and 1958, where I worked as a chemist separating the noble gases. This time, I was involved two ways. First, I was part of a rocket crew that launched sampling rockets through the radioactive cloud that remained after a nuclear detonation. Second, I flew weather balloons just before the detonation to verify that the winds were still acceptable. In all, I made three trips to Christmas Island that year.

Christmas Island, the world's largest coral atoll, is about 1,100 miles south of Hawaii and almost on the equator. The central lagoon is small and very shallow, and there are a number of shallow fresh water lakes. The average annual rainfall is about 14 inches, but when the doldrums come, it might not rain for three or four years. Consequently, it was not inhabited until modern times.

Test days were very busy. We would be up at 5 a.m., get a quick breakfast, and run a weather balloon while it was still dark. The weather balloons carried a saltwater battery and a bare flashlight bulb. The battery was activated just before release of the balloon, and the light bulb could easily be tracked as the balloon rose. Since the balloon rose at 1,000 feet per minute, a series of readings

from a single theodolite coupled with the time since release were all that were required to determine the wind direction and velocity at various altitudes. This was done 15 minutes before the test as a final confirmation of conditions. Then we would gather in an assembly area, put on extremely dark goggles a few minutes before the detonation, and await the flash. In 40 or 50 seconds after the flash, the shock wave would sweep over us with a loud bang, we would feel the rush of hurricane-velocity wind for a few seconds, and it would be over.

The light could still be too bright to safely remove the goggles for another 15 seconds or so. As soon as we removed our goggles, I would climb on top of our instrument trailer and start making measurements of the angular bearings of the cloud sides and top. We had to wait for at least 10 minutes after the detonation before launching our rockets, or they would be broken up by the turbulence in the cloud.

Once the rockets were away, the helicopters would pick up



Above: Map of Christmas Island.

Left: One of many millions, this crab was dubbed "The Mayor" by photographer Ted Hamm.



the recovery crew, and we would fly out to sea to recover the nose cones from the sampling rockets. They were extremely radioactive and had to be carried 100 feet below the helicopter to reduce the radiation level for the helicopter crew. When we delivered our cargo, we hovered at 100 feet while someone ran out and cut the cable that held the nose cone. The filter was removed and then sent back to Livermore, where it was dissolved and the various radioactive isotopes were separated and their radioactivity measured.

Flying in the helicopters was always an adventure. During one recovery operation, there was no wind, we were 15 miles from shore, and the parachute that lowered the nose cone had settled on top of the nose cone when it hit the water. As we hovered, a crewman and I were working out of the open door with a grapple to snag the parachute and intended to drag it off the nose cone. What happened next was not intended. The noise in the helicopter was so loud that no one could be heard, even with shouting. The crewman helping me thought that I wanted the parachute and pulled it out of the water before I could stop him. It inflated with

air from the downdraft from the helicopter and then rose up to almost rotor level in the updraft just outside the downdraft. It carried with it a 10-pound grapple, which would have destroyed the rotor had it struck it. Fortunately, the parachute slipped back into the downdraft and went back into the water. I untied the rope and threw it overboard before the parachute could be pulled out of the water again. After that, the recovery went normally.

One of my flights back to Hawaii was aboard a KC-135 aerial tanker, a military version of the civilian Boeing 707. They issued us parachutes before we took off. My first thought was, "How nice. They don't issue parachutes for commercial flights." My next thought was, "Why do they think we need parachutes?"



Top right: This sign puts the human invasion into perspective.

Top left: Barracks for Livermore Lab.

Right: The villagers had the right idea: they elevated their huts to escape the pesky crabs.

